REMARKS

In view of the above amendments and the remarks to follow, reconsideration and allowance of this application are respectfully requested.

Claims 1-20 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner has pointed out that in claim 1, the limitation of "of which" does not clearly point out the preceding aspects of the claimed subject matter such as the rotary shaft, the flange or the circular section. Applicant has amended claim 1 to replace the limitations "of which" with the specific limitation "the flange" thereby obviating the Examiner's rejection with respect to these claims.

Claim 1 was rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. In particular, the Examiner has pointed out that in claim 1, the limitation of "the radially inner and radially outer surface of the cavity being opposed to radially inner and radially outer surfaces, respectively, of the inertia mass" would require the opposing surfaces to be one of the same which is not supported by the specification. Applicant has amended claim 1 to replace the limitation "opposing" with "facing" and to include the limitation that "the inertia mass and the cavity having relative dimensions to allow the inertia mass limited movement in rotation with respect to the cavity." Applicant believes that these amendments make clear, as disclosed in the specification, that the inertia mass and the cavity define two pairs of facing surfaces whose individual surfaces are not "one of the same." (Office Action, page 3, line 12). Applicant believes these amendments obviate the Examiner's objections with respect to this claim.

Claims 1-20 were rejected under 35 USC 103(a) as being unpatentable over Robbins et al. (US Patent 6,190,137). Independent claims 1 and 20 have been amended.

In order to clarify the relationships between the present application and Robbins et al. please note that in the present application an annular cavity is defined by the inner and outer annular walls of an annual housing within which the cavity is located. Also, please note that two annular spaces within the annular cavity are defined by the inner and outer annular walls of the annular cavity and an annular inertia mass within the annular cavity.

It is submitted that the cited reference does not disclose or suggest either the stated purpose of the present application or those structural limitations recited in the present application which implement that purpose. Specifically, while Robbins et al. does disclose adjusting a piston's stroke through the rotation of an annular sleeve, it does not disclose or suggest applying damping in any form to the rotary shaft, the annular flange or the piston.

Robbins et al. fails to disclose or suggest all the structural limitations recited in amended claims 1 including (1) a cavity defined by the annular inner and outer walls of an annular housing connected to the radially extending outer surface of an annular housing; (2) an annular inertia mass positioned within the cavity which rotates to a limited extent within the annular cavity; and (3) two pairs of facing surfaces within the cavity wherein one pair of facing surfaces defines an annular space accommodating a displaceable material.

Claim 1 discloses, as a structural limitation, a cavity defined by the annular inner and outer walls of an annular housing connected to the annually extending outer surface of a flange. Specifically, amended claim 1 recites "a rotary shaft for rotation about an axis and carrying an eccentric, substantially circular section, radially extending flange, connected to the radially extending outer surface of the flange is an annular housing affording a cavity defined in part by

radially inner and radially outer coaxial cylindrical surfaces of the annular housing." As shown in Figure 6, Robbins et al. discloses two individual components 114, 116 which comprise a flange 112, an open space defined by the inner annular walls 124 of the flange 112, and a rotary shaft 40 passing through the space. The structure disclosed in this reference shows a cavity defined by the outer annularly wall 100 of the rotary shaft 40 and the inner annular wall 124 of the flange 112 with the cavity being within an annular housing connected to the rotary shaft 40. Applicant suggests that the cavity asserted by the Examiner is unrelated to the cavity disclosed by the Applicant. More specifically, in Robbins et al. the inner annular wall 124 of the flange 112 defines an opening (not a cavity) through which the rotary shaft 40 passes. In Applicant's design an annular housing 16 having inner and outer annular walls define an annular cavity. It is the only the inner annular walls which define the opening through which the rotary shaft 12 passes. There is nothing in Robbins et al. compatible to the annular cavity in Applicant's design which requires an annular cavity defined by the inner and outer annular walls of an annular housing connected to the annually extending outer surface of a flange. Therefore, Robbins et al. does not disclose or suggest either the annular housing or the annular cavity recited in claim 1.

Claim 1 discloses, as a structural limitation, an annular inertia mass positioned within the annular cavity which rotates to a limited extent within that cavity. Specifically, amended claim 1 recites "the cavity accommodating an annular inertia mass, the radially inner and radially outer surfaces of the cavity facing the radially inner and radially outer surfaces, respectively, of the inertia mass" and "the inertia mass and the cavity having relative dimensions to allow the inertia mass limited movement in rotation with respect to the cavity."

As discussed above, Robbins et al. discloses a flange 112 and suggests a cavity defined by the annular outer wall 100 of the rotary shaft 40 and the inner annular wall of an annular

housing connected to the rotary shaft 40. (See Figure 6). The structure disclosed in this reference shows an annular inertia mass 116 which is permanently affixed to one of the annular walls which define the cavity, namely the inner annular wall of the flange 112. As such, Robbins et al. shows an annular inertia mass within the annular cavity which <u>is fixed relative to the annular cavity</u>. However, this reference does not show an annular inertia mass positioned within the annular cavity which <u>rotates to a limited extent within that cavity</u>. Therefore, Robbins et al. does not disclose or suggest the annular inertia mass within the annular cavity disclosed in claim 1.

Claim 1 discloses, as a structural limitation, two pairs of facing surfaces within the annular cavity wherein one pair guides the relative rotation of the annular inertia mass and the other pair defines an annular space accommodating a displaceable material. Specifically, amended claim 1 recites "two pairs of facing surfaces, one of the said pairs constituting bearing surfaces guiding relative rotation of the inertia mass and the housing about the axis of the coaxial cylindrical surfaces, the other of the said pairs being spaced apart to define an annular space accommodating a displaceable material."

As discussed above, Robbins et al. discloses a flange 112 with an inner annular wall 124 facing the outer annular wall 100 of the rotary shaft 40 and annular inertia mass 116 whose annular walls are "one in the same" as the inner and outer annular walls of the flange 112. (See Figure 6). The structure disclosed in this reference shows a first pair of facing surfaces comprised of the outer annular wall 100 of the rotary shaft 40 and the inner annular wall of the flange 112 defining an open space which can <u>neither accommodate a displaceable material</u> nor <u>guide the relative rotation of the annular inertia mass</u>. Robbins et al. shows a second pair of facing surfaces comprised of the inner annular wall 124 of the flange 112 and the outer annular

wall of the annular inertia mass 116 which are necessarily one in the same and, as such, cannot define either an annular space which accommodates a displaceable material or a surface which guides the relative rotation of the annual inertia mass. Therefore, Robbins et al. does not suggest the two pairs of facing surfaces disclosed in claim 1.

Claim 20 discloses an elastomeric material, its inner surfaces connected to a pair of axially spaced and radially extending eccentric crankwebs and its outer surfaces connected to an annular inertia mass. As shown in Figure 6, Robbins et al. discloses a solid core flange 112 comprised of two metal components 116, 116, neither of which has any other material connected to its surfaces. Metal is not an elastomeric material. Therefore, Robbins et al. does not disclose or suggest the crankshaft disclosed in claim 20.

In conclusion, it would seem that the cited references fail to disclose both the structural limitations recited in claims 1 and 20 and fail to suggest the stated purpose of those claims.

In light of the foregoing, reconsideration and allowance of this application are respectfully requested.

Respectfully submitted,

By: Lloyd McAulay
Lloyd McAulay
Reg. No. 20423

COWAN, LIEBOWITZ & LATMAN, P.C
1133 Avenue of the Americas
New York, New York 10036-6799
(212) 790-9200